ENGINEERING

...in the Federal Government

Pamphlet 49

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Federal Agencies Need More Young

■ An interesting, rewarding career in engineering awaits you in the Federal Government if you are—or soon will be—a graduate engineer. Scores of departments and agencies urgently need qualified engineers to work on numerous vital and challenging projects in many branches of engineering.

Civil-service engineers have developed actual snow in climatic test chambers for one of many tests of equipment under all kinds of weather conditions.
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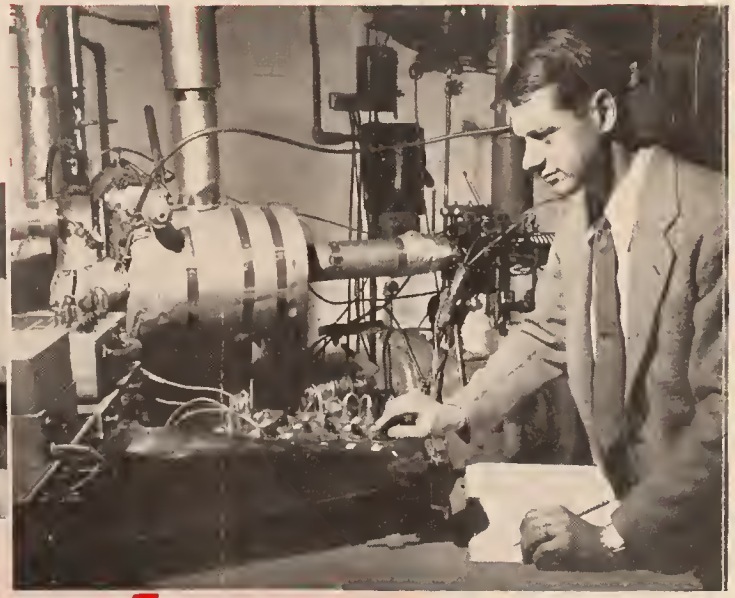

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Tests of research missiles like this magnesium model may help to overcome the thermal barrier. Federal engineers are attacking many problems of transonic and supersonic flight.

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A young engineer studies the mechanism of "knock" in automotive engines, one of countless kinds of tests conducted in Federal agencies.

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Chemical engineers make a test on plastics at the Rome (N. Y.) Air Development Center of the Air Force. Plastics is just one of the many new fields in which civil-service engineers are working.

For CAREERS in the Federal Government

ENGINEERS!

■ About 47,000 professional engineers are employed by more than 30 Federal agencies in installations throughout the United States, and more are needed. Many agencies—especially those participating in the defense program—have engineering positions to fill.

Whether you are just being graduated and are looking for your first job, or are an experienced engineer seeking a position with room for advancement—the Federal Government offers you an excellent opportunity to pursue an effective and satisfying career.

The greatest need is for young engineers who are just entering the profession. Many agencies also have openings for engineers with some years of experience, and some need engineering students to serve in engineering aid or trainee positions which may lead to appointments at the professional entrance level after they graduate.

Your Government uses the skills of engineers in virtually every branch and specialty in the field. Electronics, electrical, mechanical, ceramic, chemical, and civil engineers are most urgently needed now, but engineers trained in almost any branch can be placed.

Engineers traditionally have played important roles in the National Government. Their work has had far-reaching effects on the health, welfare, standards of living, and economy of the Nation.

Pioneer public health engineers helped to bring typhoid fever under control. Civil-service engineers have advanced design and construction of highways, bridges, hospitals, and public buildings. They played key roles in developing revolutionary aeronautical safety devices and systems. They assisted in perfecting high-speed electronic computers. And they opened the way for new industries in developing such products as lightweight concretes, printed electronic circuits, miniaturized electronic equipment, and glass fiber papers.

Wars and the threat of war have brought other vital contributions from civil-service engineers. Heat-resistant ceramic coatings for aircraft components, the proximity fuze, the atom and hydrogen bombs, guided missiles, and aircraft-warning systems are just a few of the developments to which engineers have made major contributions.

Engineers entering the Federal service have unprecedented opportunities to participate in challenging work of vital importance. Some of the advantages and benefits of engineering careers in Government are outlined in this pamphlet.

FOR MORE INFORMATION . . . .

Uncle Sam Offers Young Engineers

CHALLENGING WORK

Government agencies operate a wide variety of programs which challenge the skill, imagination, and knowledge of their engineers. They design new aircraft, plan better highways, build modern hospitals. They apply new developments in plastics, radio propagation, aerodynamics. They pave the way for missiles to travel greater distances at supersonic speeds. They work in a new realm of engineering concepts—concepts which offer unbounded challenge to the engineer of today who is in touch with the ideas of tomorrow.

CAREER OPPORTUNITIES

Federal agencies present excellent career engineering opportunities. They operate progressive career programs—hiring based on merit . . . protection against arbitrary dismissals . . . good pay . . . regular raises . . . in-service training . . . promotion from within . . . liberal leave . . . incentive awards . . . and retirement benefits. Your engineering skills and knowledge are put to work at once. The Government's work continues in good times and bad, and engineering is an expanding field—so there's a reasonable measure of security.

PAY BASED ON DUTIES

It's what you do on the job that counts. Your duties and responsibilities fix the salary for your job. Every position is classed according to its functions and duties, and employees receive equal pay for equal work. Young engineers start on the same rung of the ladder, with periodic pay raises guaranteed if their job performance is satisfactory.

PROMOTION AND TRAINING PLANS

Attractive promotion and training programs have been developed by agencies employing engineers. Most agencies provide for promotion to higher grades after completion of a 6-month training period. Many agencies continue training and planned promotions for the first few years an engineer is on the staff. Some appoint students as engineering aids or student-trainees and promote them to professional positions after graduation. Some agencies operate extension courses in which graduate credit may be earned. Others cooperate with nearby schools which offer advanced courses to further engineers' knowledge and know-how. Agencies generally promote from within when well-qualified staff engineers are available for vacancies at higher grades.

PROFESSIONAL RECOGNITION

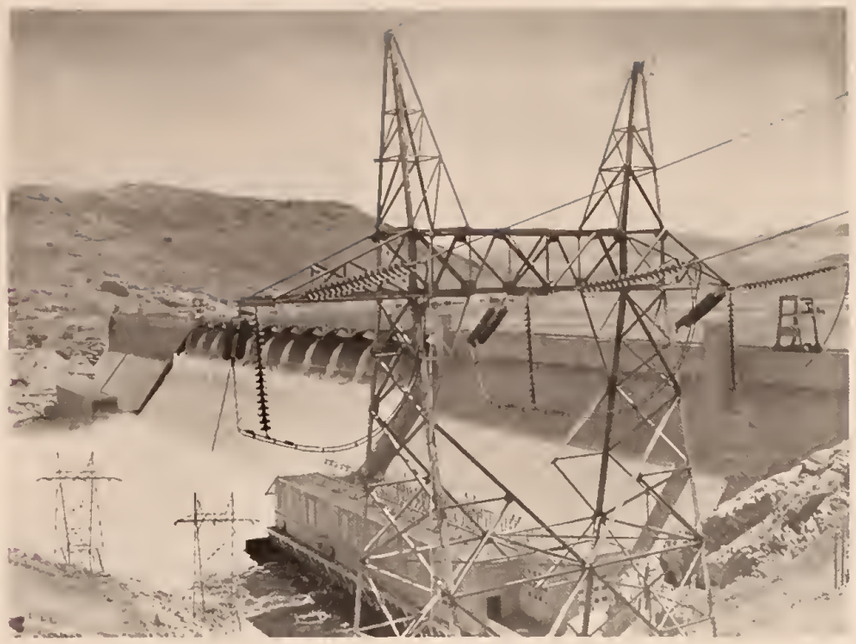
Young engineers in Government have excellent opportunities for early professional recognition. Agencies know that their prestige in engineering is keyed to the the prestige of their engineering staffs. Therefore, they help their engineers to gain professional recognition. Participation in professional societies is encouraged, as is the publication of papers in professional journals and agency publications. Many agencies sponsor seminars, symposia, and other meetings of professional groups.

LIBERAL LEAVE SYSTEM

Leave allowances are liberal. Annual leave—for vacations and incidental use—is earned on a graduated basis: employees with less than 3 years' service earn 13 working days per year (slightly more than 2½ weeks of vacation time); those with 3 to 15 years, 20 days; those with 15 years or more, 26 days. All employees earn 13 days of sick leave a year, and it can be accumulated without limit. In addition, 8 holidays are granted annually. And members of National Guard or military reserve units can take 15 days' military leave of absence with pay.

RETIREMENT AND OTHER BENEFITS

Career civil-service employees participate in a liberal retirement program. In addition to retirement based on length of service and age, the plan provides for disability retirement and benefits for surviving dependents of employees with 5 or more years of service or of retired employees who die. Compensation, medical care, and other benefits are provided to employees for injury or occupational disease, and compensation is provided for dependents of employees who die in line of duty. Unemployment compensation and low-cost group life insurance are included in the list of benefits available to Federal employees. In most agencies, employees can participate in group hospitalization and medical care insurance plans and join credit unions.



Federal engineers have been responsible for some of the world's greatest engineering projects. Career engineers have handled many mammoth projects from the blueprint stage through their completion and operation. Grand Coulee Dam is one of the huge multiple-purpose projects operated by the Government.

Many Government engineering projects require the teamwork and skill of a number of engineers and scientists. Such operations give new engineers an opportunity to work with experienced men of high standing in their profession. Here a group of engineers plan a wind-tunnel test program for a guided missile.

Advances in design and construction of highways, bridges, hospitals, and public buildings are credited to engineers in the career civil service. The modern hospital pictured under contruction is one of a number of major construction projects designed by Federal engineers.

Qualifications and Pay

A bachelor's degree in engineering from an accredited college or university, or technical experience which is equivalent to a full 4-year college curriculum, will qualify you for appointment to a position at grade GS–5 ($4,035 per year[1]), the entrance level for professional engineers. A combination of education and technical experience equivalent to a 4-year college course may also meet the requirements.

Completion of courses in nonaccredited institutions may be accepted if the instruction is definitely of college level and if the State university of the State in which the institution is located accepts the courses. If experience rather than education is used for qualifying, it must show a thorough knowledge of the fundamental physical and mathematical sciences underlying professional engineering and a good understanding of the engineering sciences and techniques and their application to the branch of engineering applied for. Experience will be evaluated on the basis of its comparability to a full 4-year professional engineering curriculum.

Applications will be accepted from students who expect to complete necessary courses within 6 months of the time of application. They may be given provisional appointments if otherwise eligible in the examination, but they cannot begin work until they furnish proof of successful completion of required courses.

Additional education or experience is necessary to qualify for appointment at grades above GS–5. Completion of studies for a master's degree in engineering, or a minimum of 6 months of professional engineering experience is required for appointment at grade GS–7 ($4,580 per year[1]).

Many agencies operate training programs under which young engineers are promoted from GS–5 to GS–7 upon satisfactory completion of 6 months' training. Advancement to GS–9 ($5,060 per year) is possible after 18 months of satisfactory service. Engineers who prove their worth can advance rapidly—after a year in grade GS–9, they are generally eligible for promotion to GS–11 ($5,940 per year), and a year in GS–11 can bring eligibility for promotion to GS–12 ($7,040). However, advancement is not automatic—it depends upon experience, assignment of greater responsibilities, and the occurrence of vacancies.

Employees who serve in grade for a certain length of time earn within-grade salary increases at intervals if their work is satisfactory. These "step" increases range from $125 every 52 weeks in lower and middle grades to $200 or $250 every 78 weeks in higher grades.

The prospect of an early call into military service for training will not bar you from consideration for appointment. If you leave the Federal service to enter military service, you will have job-restoration rights on completion of your tour of duty in the armed forces.

How To Apply

Most jobs in the Federal civil service are filled through competitive examination open to all citizens. Generally, applicants for engineering jobs are rated on the quality and extent of their training or experience, based upon statements in their applications and other information, and no written test is required.

Examinations for engineering jobs are conducted on a continuous basis. This means that you may apply for an examination at any time and be considered for appointment at an early date.

Separate examinations for engineering positions may be announced by the central office or regional offices of the Civil Service Commission as well as by boards of United States civil-service examiners located in Federal agencies throughout the country.

You can find out about these examinations at your college placement office, at many post offices, or at offices of the United States Civil Service Commission. To obtain application forms and copies of current examination announcements—which describe the jobs to be filled, tell where they are located, and give other details—visit or write to the central office or one of the regional offices of the Civil Service Commission. (See addresses on last panel of this folder.)

Study the examination announcement carefully, and be certain to follow instructions given for application. Carefully complete your application form, for your rating in the examination will depend largely on how clearly you describe your training and experience.

Many Federal agencies send representatives on recruiting visits to colleges and universities. Your college placement office can tell you about visits scheduled at your school and arrange interviews for you.

[1] The normal starting rate for grade GS–5 positions is $3,410 a year; for grade GS–7 positions it is $4,205 a year. Because of the shortage of engineers, however, the Civil Service Commission has authorized Federal agencies to make appointments to engineering positions in these grades at rates above the minimum for the grade. The new rates became effective March 12, 1955. On the same date, pay adjustments were authorized for certain physical scientist positions in these grades.

For CAREERS in the Federal Government

FOR MORE INFORMATION . . . .

FOR MORE INFORMATION

Some Federal agencies employing engineers have published pamphlets describing their engineering activities and telling about employment opportunities for engineers. Many of these pamphlets have been distributed to college placement offices.

Copies usually can be obtained free of charge by addressing a request to the issuing office. Here is a partial list of publications with the addresses of the issuing offices:

Science and Engineering at NBS—National Bureau of Standards, Washington 25, D. C.

Opportunities in the Bureau of Public Roads for Young Engineers—Bureau of Public Roads, Washington 25, D. C.

Coast and Geodetic Survey Combined Operations and Its Work and Products—Coast and Geodetic Survey, U. S. Department of Commerce, Washington 25, D. C.

NACA—The National Advisory Committee for Aeronautics—National Advisory Committee for Aeronautics, Washington 25, D. C.

Naval Establishments Conducting Scientific Research and Development Programs—Board of U. S. Civil Service Examiners for Scientific and Technical Personnel, Potomac River Naval Command, Naval Research Laboratory, Washington 25, D. C.

The U. S. Naval Ordnance Laboratory, Opportunity With a Challenge, and *Graduate Training Program at the Naval Ordnance Laboratory* (1953–54)—U. S. Naval Ordnance Laboratory, White Oak, Silver Spring, Md.

Research and Development in California and *Vacancies for Scientists and Engineers With the Navy Department*—Board of U. S. Civil Service Examiners for Scientists and Engineers, Navy Department, 1030 East Green Street, Pasadena 1, Calif.

Research at NRL and *Science Education Program*—U. S. Naval Research Laboratory, Washington 25, D. C.

Engineering—Puget Sound Naval Shipyard, Bremerton, Wash.

Launching Your Career—Philadelphia Naval Shipyard, Philadelphia 12, Pa.

This Can Be Your Story—San Francisco Naval Shipyard, San Francisco 24, Calif.

Picatinny Arsenal, the Cradle of American Ammunition—Picatinny Arsenal, Dover, N. J.

You and Your Future at Aberdeen Proving Ground—Department of the Army, Aberdeen Proving Ground, Md.

Target: Science in Your Future—Signal Corps Engineering Laboratories, Fort Monmouth, N. J.

Planning a Career—Office of the Chief of Engineers, Department of the Army, Building T–7, Washington 25, D. C.

New Horizons—The Engineering Center, Fort Belvoir, Va.

Air Research and Development Command, United States Air Force—Air Research and Development Command, Post Office Box 1395, Baltimore 3, Md.

Department of the Air Force Careers for Civilians—Office of Civilian Personnel, Headquarters, United States Air Force, Washington 25, D. C.

Wright Air Development Center—Wright Air Development Center, Wright-Patterson Air Force Base, Ohio.

Engineering Careers in the Veterans Administration (Pamphlet 5 15)—Veterans Administration, Washington 25, D. C.

Reclamation Engineering Center in Denver and *Reclamation* — U. S. Department of the Interior, Bureau of Reclamation, Washington 25, D. C.

A Career in Patents for Engineers, Physicists, Chemists—Department of Commerce, U. S. Patent Office, Washington 25, D. C.

Careers in Soil Conservation and *Summer Employment Leading to a Career in the Soil Conservation Service*—Soil Conservation Service, U. S. Department of Agriculture, Washington 25, D. C.

Northern Regional Research Laboratory—Agricultural Research Service, 825 N. University Avenue, Peoria 5, Ill.

Facts About the Southern Regional Research Laboratory — Agricultural Research Service, New Orleans, La.

Eastern Regional Research Laboratory—Agricultural Research Service, Chestnut Hill Station, Philadelphia, Pa.

Western Regional Research Laboratory—Agricultural Research Laboratory, 800 Buchanan Street, Albany 6, Calif.

Engineering Opportunities in Rural Electrification Administration, Telephony and Electrification—Rural Electrification Administration, U. S. Department of Agriculture, Washington 25, D. C.

UNITED STATES CIVIL SERVICE REGIONS

First Region—Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, and Connecticut: Post Office and Courthouse Building, Boston 9, Mass.

Second Region—New York and New Jersey: Federal Building, Christopher Street, New York 14, N. Y.

Third Region — Pennsylvania, Delaware, Maryland, and Virginia: Customhouse, Second and Chestnut Streets, Philadelphia 6, Pa.

Fifth Region—North Carolina, South Carolina, Georgia, Florida, Alabama, Tennessee, Mississippi, Puerto Rico, and Virgin Islands: 5 Forsyth Street NW., Atlanta 3, Ga.

Sixth Region—Ohio, Indiana, Kentucky, and West Virginia: Post Office and Courthouse Building, Cincinnati 2, Ohio.

Seventh Region—Wisconsin, Michigan, and Illinois: New Post Office Building, Chicago 7, Ill.

Eighth Region—Texas, Louisiana, Arkansas, and Oklahoma: 1114 Commerce Street, Dallas 2, Tex.; Branch Office—Masonic Temple Building, 333 St. Charles Avenue, New Orleans 12, La.

Ninth Region—Kansas, Missouri, Minnesota, North Dakota, South Dakota, Nebraska, and Iowa: New Federal Building, St. Louis 1, Mo.; Branch Office—Post Office and Customhouse Building, St. Paul 1, Minn.

Tenth Region—Colorado, New Mexico, Utah, Wyoming, and Arizona: Building 41, Denver Federal Center, Denver, Colo.

Eleventh Region—Montana, Oregon, Idaho, Washington, and Territory of Alaska: 302 Federal Office Building, First Avenue and Madison Street, Seattle 4, Wash.

Twelfth Region—California, Nevada, and the Territory of Hawaii: 128 Appraisers Building, 630 Sansome Street, San Francisco 11, Calif.; Branch Offices—514 Post Office and Courthouse Building, Los Angeles 12, Calif.; Federal Building, Honolulu 2, T. H.

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